



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
ENVIRONMENTAL LABORATORY

P O Box 30270  
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TEL (517) 335 9800  
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US EPA RECORDS CENTER REGION 5



451040

Division RRD  
Report to PATRICIA THORNTON  
MDEQ RRD DETROIT  
DETROIT FIELD OFFICE  
3058 W GRAND BOULEVARD DETROIT MI 482

Lab Work Order # 50700123  
Work Site ID 82001589  
Site Name CARTER COLOR COAT  
Received 07/14/2005  
Reported 07/21/2005  
Collected By SAIF SAIFUDDIN / SCOTT J

Total \$4 015 62

Samples Received

No	Sample ID	Sample Description	Matrix	Collection Date
01	AA58995	GF WS 1	SEDIMENT	07/13/2005
02	AA58996	GF WS 2	SEDIMENT	07/13/2005
03	AA58997	SF WS 3	SEDIMENT	07/13/2005
04	AA58998	SF WS 4	SEDIMENT	07/13/2005
05	AA58999	TF WS 5	SEDIMENT	07/13/2005
06	AA59000	TF WS 6	SEDIMENT	07/13/2005
07	AA59001	FF WS 7	SEDIMENT	07/13/2005
08	AA59002	FF WS 8	SEDIMENT	07/13/2005
09	AA59003	FTHF WS 9	SEDIMENT	07/13/2005
10	AA59004	FTHF WS 10	SEDIMENT	07/13/2005

Sample Comments

AA58995 PRIORITY

I certify that the analysis performed by the MDEQ Environmental Laboratory are accurate and that the laboratory tests were conducted by methods approved by the U S Environmental Protection Agency and other appropriate regulatory agencies

Bob Avery Laboratory Director



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Sample Number AA58995 GF-WS 1

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/19/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#Decachlorobiphenyl#	Not Applicable		V	
SURROGATE	#Tetrachloro m xylene#	Not Applicable		V	
12674 11 2	Aroclor 1016	Not Detected	2700		27
11104-28-2	Aroclor 1221	Not Detected	2700		27
11141 16 5	Aroclor 1232	Not Detected	2700		27
12672 29 6	Aroclor 1242	Not Detected	2700		27
12672 29 6	Aroclor 1248	Not Detected	2700		27
11097-69-1	Aroclor 1254	Not Detected	2700	D	27
11096 82 5	Aroclor 1260	Not Detected	11000		110
11100 14-4	Aroclor 1268	Not Detected	2700		27

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA58995 GF-WS 1

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		07/15/2005		CS
	Priority II Costs	Completed				07/15/2005		CS

CAS# Chemical Abstract Service Registry Number  
RL Reporting Limit  
ND Not Detected

ug / L microgram / liter (ppb)  
mg / L milligram / liter (ppm)  
ug / Kg microgram / kilogram (ppb)  
mg / Kg milligram / kilogram (ppm)

Laboratory Contacts  
Inorganic Unit Mgr Sandy Gregg  
Organic Unit Mgr Carol Smith  
Systems Mgmt Unit George Krisztian



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Sample Number AA58996 GF-WS 2

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/19/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
AS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
URROGATE	#Decachlorobiphenyl#	Not Applicable		V	
URROGATE	#Tetrachloro m-xylene#	Not Applicable		V	
2674 11 2	Aroclor 1016	Not Detected	3800		38
1104-28-2	Aroclor 1221	Not Detected	3800		38
1141 16 5	Aroclor 1232	Not Detected	3800		38
3469-21-9	Aroclor 1242	Not Detected	3800		38
2672 29 6	Aroclor 1248	Not Detected	3800		38
1097-69-1	Aroclor 1254	12000	3800	D	38
1096 82 5	Aroclor 1260	Not Detected	13000		130
7324-23-5	Aroclor 1262	Not Detected	13000		130
1100 14-4	Aroclor 1268	Not Detected	3800		38

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA58996 GF-WS 2

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0 1		07/15/2005		CS

CAS# Chemical Abstract Service Registry Number  
RL Reporting Limit  
ND Not Detected

ug / L microgram / liter (ppb)  
mg / L milligram / liter (ppm)  
ug / Kg microgram / kilogram (ppb)  
mg / Kg milligram / kilogram (ppm)

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1

Sample Number AA58997 SF-WS 3

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/19/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
AS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
UNROGATE	#Decachlorobiphenyl#	59.5		5	
UNROGATE	#Tetrachloro m. xylene#	62.7			
2674-11-2	Aroclor 1016	Not Detected	8200		82
1104-28-2	Aroclor 1221	Not Detected	8200		82
1141-16-5	Aroclor 1232	Not Detected	8200		82
3469-21-9	Aroclor 1242	Not Detected	8200		82
2672-29-6	Aroclor 1248	Not Detected	8200		82
1097-69-1	Aroclor 1254	13000	8200	D	82
1096-82-5	Aroclor 1260	Not Detected	13000		130
7324-23-5	Aroclor 1262	Not Detected	13000		130
1100-14-4	Aroclor 1268	Not Detected	8200		82

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA58997 SF-WS 3

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		07/15/2005		CS

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

Laboratory Contacts

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Sample Number AA58998 SF-WS 4

CBs as Aroclors

Analytical Method	8082	Date Tested	07/19/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
AS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
URROGATE	#Decachlorobiphenyl#	Not Applicable		V	
URROGATE	#Tetrachloro m xylene#	Not Applicable		V	
2674 11 2	Aroclor 1016	Not Detected	3800		38
1104-28-2	Aroclor 1221	Not Detected	3800		38
1141 16 5	Aroclor 1232	Not Detected	3800		38
3469-21-9	Aroclor 1242	Not Detected	3800		38
2672 29 6	Aroclor 1248	Not Detected	3800		38
1097-69-1	Aroclor 1254	13000	3800	D	38
1096 82 5	Aroclor 1260	Not Detected	16000		160
7324-28-5	Aroclor 1262	Not Detected	16000		160
1100 14-4	Aroclor 1268	Not Detected	3800		38

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA58998 SF-WS 4

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		07/15/2005		CS

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

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Sample Number AA58999 TF-WS 5

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/19/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
AS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
URROGATE	#Decachlorobiphenyl#	Not Applicable		V	
URROGATE	#Tetrachloro-m-xylene#	Not Applicable		V	
2674 11 2	Aroclor 1016	Not Detected	4100		41
1104 28 2	Aroclor 1221	Not Detected	4100		41
1141 16 5	Aroclor 1232	Not Detected	4100		41
3469 21 9	Aroclor 1242	Not Detected	4100		41
2672 29 6	Aroclor 1248	Not Detected	4100		41
1097 69 1	Aroclor 1254	7700	4100	D	41
1096 82 5	Aroclor 1260	Not Detected	4100		41
7324 23 5	Aroclor 1262	Not Detected	4100		41
1100 14 4	Aroclor 1268	Not Detected	4100		41

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA58999 TF-WS 5

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0 1		07/15/2005		CS

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

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Sample Number AA59000 TF-WS 6

CBs as Aroclors

Analytical Method	8082	Date Tested	07/20/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
AS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
URROGATE	#Decachlorobiphenyl#	32.4		5	
URROGATE	#Tetrachloro m-xylene#	41.6			
2674 11 2	Aroclor 1016	Not Detected	300		3.0
1104 28 2	Aroclor 1221	Not Detected	300		3.0
1141 16 5	Aroclor 1232	Not Detected	300		3.0
3469 21 9	Aroclor 1242	Not Detected	300		3.0
2672 29 6	Aroclor 1248	Not Detected	300		3.0
1097 69 1	Aroclor 1254	2600	300	D	3.0
1096 82 5	Aroclor 1260	540	300	D	3.0
7324 23 5	Aroclor 1262	Not Detected	550		5.5
1100 14 4	Aroclor 1268	Not Detected	300		3.0

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA59000 TF-WS 6

AS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0.1		07/15/2005		CS

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

Laboratory Contacts

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Sample Number AA59001 FF-WS 7

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/20/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	KR
CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#Decachlorobiphenyl#	9 84		5 9	
SURROGATE	#Tetrachloro m xylene#	30 7			
2674-11-2	Aroclor 1016	Not Detected	230		2 3
1104-28-2	Aroclor 1221	Not Detected	230		2 3
1141-16-5	Aroclor 1232	Not Detected	230		2 3
3469-21-9	Aroclor 1242	Not Detected	230		2 3
12672-29-6	Aroclor 1248	Not Detected	230		2 3
1097-69-1	Aroclor 1254	5400	2300	D	23
11096-82-5	Aroclor 1260	710	230	D	2 3
11324-23-5	Aroclor 1262	Not Detected	720		7-27
11100-14-4	Aroclor 1268	Not Detected	230		2 3

Result(s) and RL(s) are estimated due to low surrogate recovery

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA59001 FF-WS 7

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
	% Total Solids	100	%	0 1		07/15/2005		CS

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

Laboratory Contacts

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Sample Number AA59002 FF-WS 8

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/20/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	
CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#Decachlorobiphenyl#	Not Applicable		V	
SURROGATE	#Tetrachloro m xylene#	Not Applicable		V	
12674 11 2	Aroclor 1016	Not Detected	4000		40
1104-28-2	Aroclor 1221	Not Detected	4000		40
11141 16 5	Aroclor 1232	Not Detected	4000		40
3469-21-9	Aroclor 1242	Not Detected	4000		40
12672 29 6	Aroclor 1248	Not Detected	4000		40
11097-69-1	Aroclor 1254	23000	4000	D	40
11096 82 5	Aroclor 1260	Not Detected	4000		40
37324-23-5	Aroclor 1262	Not Detected	4000		40
11100 14-4	Aroclor 1268	Not Detected	4000		40
RLs raised due to matrix interference					
Results reported as wet weight					

Sample Number AA59002 FF-WS 8

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
7440 38 2	Arsenic Sediment	4 4	mg/Kg dry	0 5		07/19/2005	7060	LAV
7782-49-2	Selenium Sediment	ND	mg/Kg dry	0 5		07/20/2005	7740	LAV
7440 22-4	Silver Sediment	0 3	mg/Kg dry	0 25		07/20/2005	7761	LAV
	Digest Mercury Sediment	Completed				07/18/2005	7471	RG
7439 97 6	Mercury Sediment	2	mg/Kg dry	0 05		07/19/2005	7471	TS
7440-39-3	Barium Sediment	83	mg/Kg dry	1		07/19/2005	6010	MJ
7440-43 9	Cadmium Sediment	2 1	mg/Kg dry	2 0		07/19/2005	6010	MJ
7440-47 3	Chromium Sediment	11	mg/Kg dry	2		07/19/2005	6010	MJ
7440 50 8	Copper Sediment	87	mg/Kg dry	2		07/19/2005	6010	MJ
	Digest Metals Sediment	Completed				07/18/2005	3050	RG
7439 92 1	Lead Sediment	460	mg/Kg dry	5		07/19/2005	6010	MJ
7440-66-6	Zinc Sediment	120	mg/Kg dry	5		07/19/2005	6010	MJ
	% Total Solids	100	%	0 1		07/15/2005		CS
	Drying and Grinding Sediment	Completed				07/18/2005		RG

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

Laboratory Contacts

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**Sample Number      AA59003      FTHF-WS 9**

**PCBs as Aroclors**

**Analytical Method**      8082      **Date Tested**      07/20/2005      **Analyst**      MF  
**Extraction Method**      3545      **Extraction Date**      07/15/2005      **Qualifier**

AS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
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URROGATE	#Decachlorobiphenyl#	16		5.9	
URROGATE	#Tetrachloro m xylene#	45			
2674-11-2	Aroclor 1016	Not Detected	200		2.0
1104-28-2	Aroclor 1221	Not Detected	200		2.0
1141-16-5	Aroclor 1232	Not Detected	200		2.0
3469-21-9	Aroclor 1242	Not Detected	200		2.0
2672-29-6	Aroclor 1248	Not Detected	200		2.0
1097-69-1	Aroclor 1254	1500	200	D	2.0
1096-82-5	Aroclor 1260	Not Detected	200		2.0
7324-23-5	Aroclor 1262	Not Detected	200		2.0
1100-14-4	Aroclor 1268	Not Detected	200		2.0

Result(s) and RL(s) are estimated due to low surrogate recovery

RLs raised due to matrix interference

Results reported as wet weight

**Sample Number      AA59003      FTHF-WS 9**

AS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
440-38-2	Arsenic Sediment	3.0	mg/Kg dry	0.5		07/19/2005	7060	LAV
782-49-2	Selenium Sediment	ND	mg/Kg dry	0.5		07/20/2005	7740	LAV
440-22-4	Silver Sediment	ND	mg/Kg dry	0.25		07/20/2005	7761	LAV
	Digest Mercury Sediment	Completed				07/18/2005	7471	RK
439-97-6	Mercury Sediment	ND	mg/Kg dry	0.05		07/19/2005	7471	TS
440-39-3	Barium Sediment	180	mg/Kg dry	1		07/19/2005	6010	MJ
440-43-9	Cadmium Sediment	6.2	mg/Kg dry	2.0		07/19/2005	6010	MJ
440-47-3	Chromium Sediment	ND	mg/Kg dry	2		07/19/2005	6010	MJ
440-50-8	Copper Sediment	26	mg/Kg dry	2		07/19/2005	6010	MJ
	Digest Metals Sediment	Completed				07/18/2005	3050	RG
439-92-1	Lead Sediment	29	mg/Kg dry	5		07/19/2005	6010	MJ
440-66-6	Zinc Sediment	290	mg/Kg dry	5		07/19/2005	6010	MJ
	% Total Solids	100	%	0.1		07/15/2005		CS
	Drying and Grinding Sediment	Completed				07/18/2005		RG

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

Laboratory Contacts

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Organic Unit Mgr Carol Smith

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Sample Number AA59004 FTHF-WS 10

PCBs as Aroclors

Analytical Method	8082	Date Tested	07/20/2005	Analyst	MF
Extraction Method	3545	Extraction Date	07/15/2005	Qualifier	
CAS #	Compound	Result ug/Kg dry	RL	Qualifier	Dilution Factor
SURROGATE	#Decachlorobiphenyl#	Not Applicable		V	
SURROGATE	#Tetrachloro m xylene#	Not Applicable		V	
2674-11-2	Aroclor 1016	Not Detected	2000		20
11104-28-2	Aroclor 1221	Not Detected	2000		20
11141-16-5	Aroclor 1232	Not Detected	2000		20
33469-21-9	Aroclor 1242	Not Detected	2000		20
2672-29-6	Aroclor 1248	Not Detected	2000		20
11097-69-1	Aroclor 1254	6000	2000	D	20
11096-82-5	Aroclor 1260	Not Detected	2000		20
37324-23-5	Aroclor 1262	Not Detected	2000		20
11100-14-4	Aroclor 1268	Not Detected	2000		20

RLs raised due to matrix interference

Results reported as wet weight

Sample Number AA59004 FTHF-WS 10

CAS#	Analyte Name	Result	Unit	RL	Qualifier	Date Tested	Method	Analyst
7440-38-2	Arsenic Sediment	4.4	mg/Kg dry	0.5		07/19/2005	7060	LAV
7782-49-2	Selenium Sediment	ND	mg/Kg dry	0.5		07/20/2005	7740	LAV
7440-22-4	Silver Sediment	0.6	mg/Kg dry	0.25		07/20/2005	7761	LAV
	Digest Mercury Sediment	Completed				07/18/2005	7471	RK
7439-97-6	Mercury Sediment	21	mg/Kg dry	0.05		07/19/2005	7471	TS
7440-39-3	Barium Sediment	370	mg/Kg dry	1		07/19/2005	6010	MJ
7440-43-9	Cadmium Sediment	4.2	mg/Kg dry	2.0		07/19/2005	6010	MJ
7440-47-3	Chromium Sediment	23	mg/Kg dry	2		07/19/2005	6010	MJ
7440-50-8	Copper Sediment	380	mg/Kg dry	2		07/19/2005	6010	MJ
	Digest Metals Sediment	Completed				07/18/2005	3050	RG
7439-92-1	Lead Sediment	160	mg/Kg dry	5		07/19/2005	6010	MJ
7440-66-6	Zinc Sediment	420	mg/Kg dry	5		07/19/2005	6010	MJ
	% Total Solids	100	%	0.1		07/15/2005		CS
	Drying and Grinding Sediment	Completed				07/18/2005		RG

CAS# Chemical Abstract Service Registry Number

RL Reporting Limit

ND Not Detected

ug / L microgram / liter (ppb)

mg / L milligram / liter (ppm)

ug / Kg microgram / kilogram (ppb)

mg / Kg milligram / kilogram (ppm)

Laboratory Contacts

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<u>Qualifier Code</u>	<u>Qualifier Description</u>
1	Result(s) and RL(s) are estimated due to low surrogate recovery
2	Result is estimated due to high surrogate recovery
3	Result(s) and RL(s) are estimated due to low matrix spike recovery
4	Result is estimated due to high matrix spike recovery
5	Result and RL are estimated due to low continuing calibration standard criteria failure
6	Result is estimated due to high continuing calibration standard criteria failure
7	Result(s) and RL(s) are estimated due to poor precision
8	Result(s) and RL(s) are estimated due to low recovery of batch QC
9	Result outside QC acceptance criteria
A	Value reported is the mean of two or more determinations
C	Value calculated from other independent parameters
D	Analyte value quantified from a dilution(s) reporting limit (RL) raised
E	Result is estimated due to high recovery of batch QC
F	Free cyanide was not analyzed due to low level of total cyanide
G	Result and RL are estimated due to initial calibration standard criteria failure
H	Recommended laboratory holding time was exceeded
I	Dilution required due to matrix interference reporting limit (RL) raised
J	Analyte was positively identified Value is an estimate
JA	Result is estimated due to multiple Aroclors present
JC	Result is estimated since confirmation analysis did not meet acceptance criteria
JD	Due to severe degradation specific Aroclor identification is difficult and quantitation is estimated
K	RL(s) raised due to matrix interferences
KR	RL(s) raised due to low sample volume submitted
KS	RL(s) raised due to low total solids
KW	RL(s) raised due to light sample weight
LB	Reported library search compounds are tentative identifications with estimated concentrations
M	The level of the method preparation blank (MPB) is reported in the qualifier column
N	Non homogeneous sample made analysis of sample questionable
O	Result and RL estimated due to analysis from an open vial
P	Recommended sample collection/preservation technique not used reported result(s) is an estimate
Q	Quantity of sample insufficient to perform analyses requested
R	Result confirmed by re extraction and analysis
S	Supernatant analyzed
T	Reported value is less than the reporting limit (RL) Result is estimated
V	Value not available due to dilution
W	Reported value is less than the method detection limit (MDL)
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 C 2 Methylnaphthalene & naphthalene have boiling points above 200 C and are better suited to analysis by methods 8270 or 625 as semivolatile organics
PI	Possible interference may have affected the accuracy of the laboratory result
Z	Result reported below the RL to meet the TDL in RRD Op Memo 2 (10/22/04) multiplied by applicable dilution factor

CAS# Chemical Abstract Service Registry Number  
RL Reporting Limit  
ND Not Detected

ug / L microgram / liter (ppb)  
mg / L milligram / liter (ppm)  
ug / Kg microgram / kilogram (ppb)  
mg / Kg milligram / kilogram (ppm)

Laboratory Contacts  
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